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**APPARATUS AND METHOD FOR AUGMENTING A RESERVATION SYSTEM TO
PROVIDE USER DEFINED CUSTOMIZED SERVICE**

BACKGROUND OF THE INVENTION

5

1. Technical Field:

The present invention is directed to an improved computing device. More specifically, the present invention is directed to an apparatus and method for augmenting a reservation system to provide user defined customized service.

2. Description of Related Art:

Online reservations systems are generally known in the art. Using an online reservation system, a user may designate various options regarding the reservation that the user wishes to obtain including date and time, seating, pickup and dropoff times, vehicle type, origination and destination locations, and the like.

The options are predefined by the reservation system. That is, the user is provided a listing of options from which the user may select options that he/she wishes to include with his/her reservation request. Thus, the user is limited to obtaining only those options that are specifically predefined and provided to the user. There is no mechanism by which the user may define the options that he/she wishes outside those that are predefined by the reservation system.

Therefore, it would be beneficial to have an apparatus and method for augmenting a reservation system to provide user defined customized service.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and method for augmenting a reservation system to provide user defined
5 customized services. The apparatus and method of the present invention allow a user to enter parameters describing a customized service that the user wishes to obtain with regard to a reservation request. The parameters are then processed by the reservation system to determine if
10 the requested customized service is within the rules and regulations of the reservation system.

If the customized service is within the rules and regulations, the reservation system determines which service provider, if any, provides the requested service. A request
15 is then sent to the service provider requesting the customized service. If the service provider responds with an acknowledgment that the service provider can provide the service, the reservation system accepts the customized service request and informs the user of the acceptance and
20 any additional cost for the customized service. Such interaction with the service provider may take many forms including, for example, a series of instant messages being sent between the reservation system and the service provider, a series of messages between the reservation
25 system and the service provider associated with a negotiation for the customized service, an Internet telephony communication between a human associated with the reservation system and a human operator associated with the service provider, or the like. Alternatively, such
30 interactions may be provided between the user requesting the customized service and the service provider and be facilitated by the reservation system. Moreover, such

interactions may be between the user and the reservation system itself.

If the user confirms that he/she wishes to obtain the customized service, the reservation is completed and the customized service is scheduled. The user's account may then be billed for the total charge of the reservation and the customized service.

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BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the
5 invention are set forth in the appended claims. The
invention itself, however, as well as a preferred mode of
use, further objectives and advantages thereof, will best be
understood by reference to the following detailed
description of an illustrative embodiment when read in
10 conjunction with the accompanying drawings, wherein:

Figure 1 is an exemplary diagram illustrating a
distributed data processing system in accordance with the
present invention;

Figure 2 is an exemplary diagram illustrating a server
15 data processing device in accordance with the present
invention;

Figure 3 is an exemplary diagram illustrating a client
data processing device in accordance with the present
invention;

Figure 4 is an exemplary block diagram of the
20 operational components of the reservation server according
to the present invention;

Figure 5 is an exemplary block diagram of the
operational components of a client device in accordance with
25 the present invention;

Figure 6 is a flowchart outlining an exemplary
operation of a reservation server according to the present
invention;

Figure 7 is a flowchart outlining an exemplary
30 operation of a client device in accordance with the present
invention; and

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Figure 8 is an exemplary block diagram illustrating example service providers with which a reservation system may communicate in order to provide customized service in accordance with the present invention.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the figures, **Figure 1** depicts a pictorial representation of a network of data processing
5 systems in which the present invention may be implemented. Network data processing system **100** is a network of computers in which the present invention may be implemented. Network data processing system **100** contains a network **102**, which is the medium used to provide communications links between
10 various devices and computers connected together within network data processing system **100**. Network **102** may include connections, such as wire, wireless communication links, or fiber optic cables.

In the depicted example, server **104** is connected to
15 network **102** along with storage unit **106**. The server **104** may be a reservation server that is capable of making reservations in accordance with the present invention, as described in greater detail hereafter.

In addition, clients **108**, **110**, and **112** are connected to
20 network **102**. These clients **108**, **110**, and **112** may be, for example, personal computers, personal digital assistants, (PDAs), cellular telephones, wireless two-way pagers, network computers, or any other computing device capable of communication via the network **102**. In a preferred
25 embodiment, these client devices **108**, **110** and **112** are modified to include software instructions for implementing client side operations of the present invention, as described hereafter. However, the present invention is not limited to such an embodiment and all of the operations of
30 the present invention may be implemented in server **104**

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without departing from the spirit and scope of the present invention.

In the depicted example, server **104** provides data, such as boot files, operating system images, and applications to 5 clients **108-112**. Clients **108**, **110**, and **112** are clients to server **104**. Network data processing system **100** may include additional servers, clients, and other devices not shown. In the depicted example, network data processing system **100** is the Internet with network **102** representing a worldwide 10 collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, 15 educational and other computer systems that route data and messages. Of course, network data processing system **100** also may be implemented as a number of different types of networks, such as for example, an intranet, a local area network (LAN), or a wide area network (WAN). **Figure 1** is 20 intended as an example, and not as an architectural limitation for the present invention.

Each of the client devices **108-112** are equipped with instructions for establishing reservation preferences for customization of reservations when in communication with 25 reservation server **104**. The reservation server **104** operates to make reservations for users of the client devices **108-112** based on the preferences communicated to the reservation server **104** by the client devices **108-112**. These preferences include reservation features, e.g., services from service 30 providers, which may have an associated cost premium associated with them due to these features being outside the

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rules and regulations of the reservation server **104**. In this way, the user of a client device may designate that he/she wishes to obtain services that are not generally available to all users. The user may then be charged a premium for these "premier" services.

The service provider reservation systems **114** and **118** communicate with the reservation server **104** to inform the reservation server **104** if requested services are available. The service provider reservation systems **114** and **118** may then schedule the requested services and store the schedule in databases **116** and **120**. The database **116** and **120** may further include additional information used by the service provider reservation systems **114** and **118** as appropriate.

While in the preferred embodiment the present invention is implemented as software instructions that are incorporated as part of a reservation server and client devices, the present invention is not limited to such an embodiment. Rather, the present invention may be implemented entirely within a reservation server that is accessible by users via client devices and a data network. In such an embodiment, the client devices themselves need not be modified in any manner from standard known client devices and may communicate with the reservation server in a known manner. Moreover, the present invention may be implemented in software, hardware, or a combination of software and hardware.

Referring to **Figure 2**, a block diagram of a data processing system that may be implemented as a server, such as server **104** in **Figure 1**, is depicted in accordance with a preferred embodiment of the present invention. Data processing system **200** may be a symmetric multiprocessor

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(SMP) system including a plurality of processors **202** and **204** connected to system bus **206**. Alternatively, a single processor system may be employed. Also connected to system bus **206** is memory controller/cache **208**, which provides an interface to local memory **209**. I/O bus bridge **210** is connected to system bus **206** and provides an interface to I/O bus **212**. Memory controller/cache **208** and I/O bus bridge **210** may be integrated as depicted.

Peripheral component interconnect (PCI) bus bridge **214** connected to I/O bus **212** provides an interface to PCI local bus **216**. A number of modems may be connected to PCI local bus **216**. Typical PCI bus implementations will support four PCI expansion slots or add-in connectors. Communications links to clients **108-112** in **Figure 1** may be provided through modem **218** and network adapter **220** connected to PCI local bus **216** through add-in boards.

Additional PCI bus bridges **222** and **224** provide interfaces for additional PCI local buses **226** and **228**, from which additional modems or network adapters may be supported. In this manner, data processing system **200** allows connections to multiple network computers. A memory-mapped graphics adapter **230** and hard disk **232** may also be connected to I/O bus **212** as depicted, either directly or indirectly.

Those of ordinary skill in the art will appreciate that the hardware depicted in **Figure 2** may vary. For example, other peripheral devices, such as optical disk drives and the like, also may be used in addition to or in place of the hardware depicted. The depicted example is not meant to

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imply architectural limitations with respect to the present invention.

The data processing system depicted in **Figure 2** may be, for example, an IBM e-Server pSeries system, a product of International Business Machines Corporation in Armonk, New York, running the Advanced Interactive Executive (AIX) operating system or LINUX operating system.

With reference now to **Figure 3**, a block diagram illustrating a data processing system is depicted in which the present invention may be implemented. Data processing system **300** is an example of a client computer. Data processing system **300** employs a peripheral component interconnect (PCI) local bus architecture. Although the depicted example employs a PCI bus, other bus architectures such as Accelerated Graphics Port (AGP) and Industry Standard Architecture (ISA) may be used. Processor **302** and main memory **304** are connected to PCI local bus **306** through PCI bridge **308**. PCI bridge **308** also may include an integrated memory controller and cache memory for processor **302**. Additional connections to PCI local bus **306** may be made through direct component interconnection or through add-in boards. In the depicted example, local area network (LAN) adapter **310**, SCSI host bus adapter **312**, and expansion bus interface **314** are connected to PCI local bus **306** by direct component connection. In contrast, audio adapter **316**, graphics adapter **318**, and audio/video adapter **319** are connected to PCI local bus **306** by add-in boards inserted into expansion slots. Expansion bus interface **314** provides a connection for a keyboard and mouse adapter **320**, modem **322**, and additional memory **324**. Small computer system interface (SCSI) host bus adapter **312** provides a connection

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for hard disk drive **326**, tape drive **328**, and CD-ROM drive **330**. Typical PCI local bus implementations will support three or four PCI expansion slots or add-in connectors.

An operating system runs on processor **302** and is used
5 to coordinate and provide control of various components within data processing system **300** in **Figure 3**. The operating system may be a commercially available operating system, such as Windows 2000, which is available from Microsoft Corporation. An object oriented programming
10 system such as Java may run in conjunction with the operating system and provide calls to the operating system from Java programs or applications executing on data processing system **300**. "Java" is a trademark of Sun Microsystems, Inc. Instructions for the operating system,
15 the object-oriented operating system, and applications or programs are located on storage devices, such as hard disk drive **326**, and may be loaded into main memory **304** for execution by processor **302**.

Those of ordinary skill in the art will appreciate that
20 the hardware in **Figure 3** may vary depending on the implementation. Other internal hardware or peripheral devices, such as flash ROM (or equivalent nonvolatile memory) or optical disk drives and the like, may be used in addition to or in place of the hardware depicted in **Figure**
25 **3**. Also, the processes of the present invention may be applied to a multiprocessor data processing system.

As another example, data processing system **300** may be a stand-alone system configured to be bootable without relying on some type of network communication interface, whether or
30 not data processing system **300** comprises some type of network communication interface. As a further example, data

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processing system **300** may be a Personal Digital Assistant (PDA) device, which is configured with ROM and/or flash ROM in order to provide non-volatile memory for storing operating system files and/or user-generated data.

5 The depicted example in **Figure 3** and above-described examples are not meant to imply architectural limitations. For example, data processing system **300** also may be a notebook computer or hand held computer in addition to taking the form of a PDA. Data processing system **300** also
10 may be a kiosk or a Web appliance.

As mentioned above, the present invention provides a mechanism by which a reservation system is augmented to provide services beyond the regular services offered by the reservation system. These customized services are defined
15 by the user in a reservation request. The reservation system may then determine whether to accept the user defined customized service based on rules and regulations established with the reservation system and the availability of the user defined service.

20 The present invention makes use of a set of rules and regulations that define the regular services that may be provided by the reservation system. In addition to these rules, additional rules and regulations may be provided for defining "fuzzy" areas in which the rules and regulations
25 for the regular services may be relaxed for privileged customers. The relaxation of the regular rules may be provided to a customer, when requested, in exchange for a cost premium to be paid by the customer.

Figure 4 is an exemplary block diagram of the
30 operational components of a reservation server in accordance with the present invention. As shown in **Figure 4**, the

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reservation server **400** includes a reservation system **410**, a scheduling system **450** and a database **440**. The reservation system **410** is used to interface with client devices to receive reservation requests, authenticate requested
5 services, and make reservations. The scheduling system **450** is used to communicate with service providers to schedule providing of services requested by client devices through the reservation system **410**. The database **440** is used to store reservations and customer profiles for use with the
10 reservation system **410**.

The reservation system **410** includes a set of rules and regulations **420** that define the limits of the services that may be provided by the reservation system. The rules and regulations **420** define the limits of regular services that are provided to all customers. In addition, these rules and regulations **420** may include rules and regulations that define fuzzy areas in which the regular services may be expanded to privileged and customized services for certain customers.

20 In addition to the rules and regulations **420**, the reservation system **410** includes predefined services **430**. The predefined services **430** include regular services **432** that are provided to all customers and privileged services **434** that are provided to certain groups of customers.

Privileged services, as the term is used herein, are services beyond those provided in the regular services, that are provided to a predefined class of customers. Thus, privileged services are those services that are offered to a particular group of customers. For example, if an airline is celebrating its 50th anniversary, the airline may choose to offer a special meal upgrade to customers that have flown

on the airline more than 25 times. Thus, any customer that falls into the group of having flown on the airline 25 times will be provided with the option of using this privileged service.

5 In addition to the above, the reservation system 410 includes a customized service handler 436 which receives requests for customized services and handles acceptance or denial of the customized service request. Customized services, as the term is used herein, refers to services that are not predefined by the reservation system. These are services that are defined by the user in a reservation request. For example, a user may request that, as part of an airline meal upgrade, he be served caviar with his meal. This is a service that is not provided with regular services and is not something that the airline is offering as a privileged service, but is rather, simply something that the user is requesting without being told that it is available *a priori*.

When the reservation system **410** receives a request for a customized service, the reservation system **410** must check the parameters of the request against the rules and regulations to see if the customized service is able to be provided within the rules and regulations. In addition, if an outside service provider is required to provide the customized service, the reservation system **410** must check with the service provider to make sure that it can satisfy the requested customized service before accepting the request for the customized service.

The reservation system **410** may check with the service
30 provider in an automated manner, such as sending a request
to the reservation system **410**, or in a semi-manual manner.

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In the automated manner the reservation system 410 sends a request to a service provider system requesting the customized service. The service provider system may then check its internal databases, rules, etc. to determine if the requested customized service may be provided. If so, the service provider system may return a response indicating that the customized service may be provided and the details of providing the customized service, such as price, date and time, etc.

10 In the semi-automated manner, the reservation system
410 may, upon receiving a request for a customized service,
initiate a communication session between a human operator
associated with the reservation system 410 and a human
operator of the service provider system. Such a
15 communication session may take the form of an instant
messaging communication, a data network telephony session, a
conventional telephone communication session, an electronic
mail based communication session, or the like. Such
communication assumes that the address, such as instant
20 messaging address, telephone number, or the like, is
available to the reservation system 410 such that the
reservation system 410 may initiate the communication
session. Any mechanism for facilitating the communication
between the human operators may be used without departing
25 from the spirit and scope of the present invention.

The communication session between the human operators may take the form of a request by the human operator of the reservation system **410** and acceptance or denial by the human operator of the service provider. Alternatively, the communication session may be a negotiation between the human operators in which terms of providing the customized service

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are negotiated through a series of offers, counteroffers, and ultimately acceptance or rejection of the offers and/or counteroffers. Alternatively, reservation daemon processes may be provided that have the artificial intelligence to

5 contact service supplier daemon processes to perform automatic negotiations based on established rules. In such a case, human override options may be provided to override the automatic negotiations.

Once the request for the customized service is ultimately accepted or rejected, in either the automatic or semiautomatic manner, the reservation system 410 may communicate either acceptance or rejection of the customized service to the requesting user. If providing of the customized service is accepted, the terms of acceptance may be provided to the requesting user and an opportunity for the user to agree to or not agree to these terms is provided. The terms of acceptance may involve pricing, and the like, in which profit for the operators of the reservation system 410 may be factored in. Thus, the terms of acceptance may or may not be the same as the terms accepted by the service provider.

With the present invention, a user may log onto the reservation server **400** using a software interface. This interface may be a browser application running on the client
25 device, a graphical user interface provided in the client device, or the like. Alternatively, upon logging onto the reservation server **400**, the interface may be downloaded to the client device as an applet, script, or the like.

Through the interface, the user of the client device
30 may register with the reservation system **410**. Such
registration may include, for example, providing personal

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information and billing information to the reservation system **410**. In addition, the user may provide personal preference information for reservation services. The information provided by the user is stored as a user profile 5 in the database **440** and is retrievable based on a user identifier.

Some users may be considered to be privileged users to which privileged services and customized services are made available. The categorization of the users as privileged 10 users may be performed in any appropriate manner. For example, a user may be considered a privileged user if the user has an income above a certain threshold, has used the airline a certain number of times previously, has a business account with the airline, has a credit card or frequent 15 flier card associated with the airline, uses the services of affiliated service providers, switches his/her long distance telephone service provider, subscribes to being a privileged user, or the like.

The categorization may be performed based on the 20 information provided by the user during the registration of the user with the reservation system **410**, for example. The categorization may also be performed based on factors other than, or in addition to, the information provided by the user during registration. Moreover, the user may be 25 recategorized at a later time such that the user is recategorized as a privileged user.

Regardless of the mechanism for categorizing the user as a privileged user, the user profile in the database **440** preferably stores an indicator of whether the user is 30 privileged or not. Privileged users are users to which

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privileged services may be advertised and/or from which customized service requests may be accepted.

In addition to, or in replacement of, the user profile stored in the database 440, the client device may make use of cookies to provide information to the reservation system. The use of cookies with data network servers is generally known in the art. The present invention may make use of cookies to upload user identification and profile information to the reservation system 410. The cookies may further be used to upload requests for customized services that the user tends to repeatedly request. Other mechanisms for informing the reservation system 410 of the user identification, profile, and customized service request information may be used without departing from the spirit and scope of the present invention.

When the user logs onto the server 400 using his/her client device, the user makes use of an interface, such as a graphical user interface (GUI), for inputting reservation requests. As mentioned above, the GUI may be present on the client device itself, such as a plugin to a web browser or the like, or may be provided by the reservation server 400 upon logon, such as in an applet, script or the like. The GUI presented to the user may be customized based on whether or not the user is a privileged user or not. That is, certain options that are not available to all users may be included in the GUI when the user is determined to be a privileged user.

Using the GUI, the user may select regular services and privileged services (if the user is privileged) from available options presented through the GUI. In addition, if the user is a privileged user, the GUI may include one or

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more fields for entering parameters regarding a request for customized services. These parameters may include one or more parameters that describe the service requested, such as brand name of drink requested, a quantity, a requested
5 maximum price for the customized service, and the like. The parameters are user defined and are not predefined parameters from which the user chooses. Thus, the user is capable of entering any type of customized service that the user wishes to obtain from the reservation system **410**
10 without being limited in his/her choices to predefined services.

The parameters of the requested customized service are received by the reservation system **410** and provided to the customized service handler **436**. The customized service
15 handler **436** applies the received parameters to the rules and regulations **420** and determines if the customized service may be provided within the rules and regulations.

For example, typically, an airline may limit the number of bags that a passenger may check to two per passenger. As
20 a customized service, the user may request that they be able to check five bags rather than the normal two. The customized service handler **436** may compare the request for checking five bags against the rules and regulations **420** in the reservation system **410** and determine that while normally
25 only two bags may be checked, the rules and regulations **420** indicate that, based upon space availability, additional bags may be checked for an additional cost of \$50.00 per bag. Thus, the requested customized service may be provided within the limits defined by the rules and regulations **420**.

30 However, when a request for customized services meets the requirements of the rules and regulations **420**, if the

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service is to be supplied by an outside service provider, the availability of the service from the service provider must also be determined. In such a case, the customized service handler **436** communicates with the reservation system of the service provider to request that the customized service be provided. The customized service handler **436** determines which service provider to communicate with based on service provider information stored in database **440**. This service provider information may include contact information for communicating with the service provider, as well as information regarding the services available from the service provider.

Based on the service provider information retrieved from the database **440**, the customized service handler **436** transmits a request for the customized service to the service provider. The service provider may then process the request and determine whether it can provide the requested service. Such a determination may be made first based on whether the service provider even provides the requested service, and second based on whether the service provider is capable of providing the requested service at the requested time, e.g., for a flight that is leaving Dallas-Ft. Worth Airport at 10:36 am on January 6th.

Alternatively, as previously mentioned, the customized service handler **436** may initiate a communication session between a human operator of the reservation system and the service provider. Such a communication session may include instant messaging, data network telephony, conventional telephone communication, electronic mail messaging, and the like. The communication session may be of a request and acceptance or denial type or may be a negotiation type of

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communication session in which a plurality of messages are relayed back and forth between the parties.

Figure 8 provides an exemplary diagram that illustrates some of the service providers that may be used with a reservation system according to the present invention. As shown in **Figure 8**, an airline reservation system **810** may communicate with a vendor providing airline food **820** to determine if customized meal selections may be obtained from the vendor **820**. In addition, the airline reservation system **810** may communicate with an airline baggage handling system **830** to determine if a special request for baggage handling, such as a increased number of checked bags, may be provided by the airline baggage handling system **830**. Moreover, the airline reservation system **810** may communicate with a premier service provisioning system **840** to determine if a particular class of service may be provided based on the requested customized service to thereby satisfy the request for customized service. Other systems not shown in **Figure 8** may also be queried based on the particular customized service request.

Returning to **Figure 4**, if the service provider determines that it can provide the requested service, the service provider may return an acknowledgment to the customized service handler **436**. This acknowledgment may include an indication of the price charged by the service provider for providing the service. Alternatively, if a communication session between human operators is used, the human operator of the reservation system may input the acceptance terms and the terms to which the requesting user must agree to obtain the requested customized service.

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Based on this acknowledgment, the customized service handler **436** may inform the user that the request for a customized service has been accepted and inform the user of the additional charge for the customized service should the user confirm that he/she wishes to obtain the customized service at the associated extra cost.

If the user transmits a confirmation of acceptance of the customized service at the associated cost, the reservation system **410** may instruct the scheduling system **450** to schedule the reservation and the requested customized service. The scheduling system **450** will then update appropriate records in the database **440** to reflect the scheduling of the reservation and the requested customized service. The scheduling system **450** further schedules the customized service with the service provider. The user's account, identified by the user profile and/or cookie information, may then be billed for the total cost of the reservation and the customized service.

Thus, with the present invention, a user may request services that are not provided to all customers. Moreover, the user may request services that are not predefined by the reservation system **410**. In this way, the user has more freedom in requesting services that he/she wishes to obtain from the reservation system.

Figure 5 is an exemplary block diagram illustrating the operational components of a client computer in accordance with the present invention. The components shown in **Figure 5** are preferably implemented as computer instructions executed by the client computer **510**. These instructions provide an interface for communicating with the reservation server **400**. As noted above, the interface may be resident

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on the client computer or may be downloaded to the client computer as an applet, script, or the like, upon logging on to the reservation server **400**.

As shown in **Figure 5**, the client **510** includes selection mechanism **520** for selecting various service levels. These service levels include generic or regular service, privileged service, or customized service. The user may select which level of service he/she wishes and the reservation server **400** will determine whether the user is authorized for that level of service based on information stored in a user profile, for example. Alternatively, there may be a surcharge associated with providing privileged or customized service. Thus, if a user is willing to pay the surcharge for being treated as a privileged or customized service level customer, the user may be provided with this level of service.

The client **510** may further include a user profile **530**. The user profile may include an indication of the status of the user as being a privileged client or regular client. In addition, the user profile may include an indication of the preferences, billing information, and the like, of the user. As mentioned previously, rather than storing the client profile on the client **510**, this profile may be stored in the database **440** and accessible via a user identifier, for example.

The client **510** further includes a history data structure **540** that stores information regarding past reservations made by the user using the interface. This may include previous travel schedules, services requested, money spent, and the like. As with the user profile, this history data structure may be stored on the reservation server **400**

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in the database **440** in association with the user profile, rather than on the client **510**.

The client **510** may further include fields **550** for specifying choices for setting up the reservation and for
5 services that are to be provided. These fields **550** may include predefined options for regular services and privileged services, if the user is determined to be a privileged user. In addition, these fields **550** may include
10 fields for entering one or more freeform parameters for defining a customized service that is requested by the user.

All of these components of the client **510** may be accessible via the graphical user interface **560**. The client
510 receives inputs from a user via the graphical user interface **560** and transmits the reservation request to the
15 reservation server **400** via a network interface. The graphical user interface **560** may further be used to provide acknowledgments of acceptance of the reservation request and other information to the user as appropriate.

Figure 6 is a flowchart outlining an exemplary
20 operation of the present invention. As shown in **Figure 6**, the operation starts with the configuration of the server along with relevant infrastructure including databases, other service providers, and the like (step **610**). A request is then received from a client device (step **620**). A
25 determination is made as to whether the request is a privileged or customized service request (step **630**).

If the request is not for a privileged or customized service, the reservation is handled in a normal manner (step
640) If the request is for a privileged or customized
30 service, the customer's profile is checked for the requisite

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privilege level (step **650**). A determination is made as to whether the customer has the requisite privilege level (step **660**). If not, the request is resubmitted as another type of reservation request (step **670**) after the customer either
 5 modifies the request or applies for and acquires a status upgrade. Thus, either a new request that may be satisfied is submitted, or the same request may be resubmitted after the user acquires the required privileged to obtain the requested service.

10 If the customer does have the requisite privilege level, the database and other service providers are contacted to determine if the request is satisfiable (step **680**). A determination is made as to whether the request is satisfiable (step **690**). If not, the request is resubmitted
 15 in step **670**. If the request is satisfiable, the database is updated and appropriate transactions are performed with the other service providers to secure the requested service (step **692**). The reservation is then completed (step **694**) and a determination is made as to whether there are any more
 20 requests (step **696**). If so, the operation returns to step **620**. Otherwise, the operation ends.

Figure 7 is a flowchart outlining an exemplary operation of the client device in accordance with the present invention. As shown in **Figure 7**, the operation
 25 starts with the client device logging onto the reservation system (step **710**). A determination is made as to whether the client device is a new client device (step **720**). If the client device is a new client device, the client registers with the reservation system (step **730**). Thereafter, or if
 30 the client is not a new client, the client sends the client preferences to the reservation system (step **740**). As

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mentioned previously, in one embodiment, the reservation system may already store the user profile in a database and thus, this step may be replaced by transmitting a user identifier to the reservation system. The reservation
5 system may then use this user identifier to retrieve the user profile from the database.

Thereafter, the client device provides a reservation request and service selections (step 750). A determination is made as to whether the user wishes to enter special
10 requests for services (step 760). If so, customization information is entered (step 780) and a determination is made as to whether the request is satisfiable (step 790). If the request is not satisfiable, the privileged request may be modified by the user (step 792) and the request is
15 resubmitted (step 794). Alternatively, as mentioned above with regard to **Figure 6**, the user may apply for and obtain a status upgrade and resubmit the same request once the user has acquired the requisite privilege level.

If the request is satisfiable, an entry is made into
20 the customer's profile (step 796) to log the request in a manner as to update the preferences for this user. In this way, the system automatically updates the user's preference for use with future service requests.

Thereafter, or if the reservation does not include
25 special requests in step 760, the client device receives confirmation of the reservation (step 770). The client device then provides payment via an accounting and billing interface (step 772). A determination is then made as to whether there are additional requests (step 774). If so,
30 the operation returns to step 750, otherwise the operation ends.

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Thus, the present invention provides a system for augmenting a reservation system so that the reservation system is capable of handling privileged and customized service requests. The reservation system of the present invention is capable of receiving requests for customized services that are not predefined by the reservation system. The reservation system is further capable of investigating whether the customized service may be provided and at what cost the customized service may be provided to the requester. The reservation system is then able to schedule the customized service so that it is provided to the user in association with the user's reservation.

Although the examples provided above are directed to an airline reservation system, the invention is not limited to such. The airline reservation system is provided only as an example and not intended to imply any limitations on the present invention. The present invention may be used with any reservation system including hotel reservations, car reservations, cruise line reservations, and the like.

Furthermore, although the preferred embodiments have been described in terms of a data network, such as the Internet, the present invention is not limited to such. Rather, the present invention may be used with any type of network including wireless networks, infrared networks, satellite networks, optical networks, and the like. For example, the present invention may be implemented in a wireless network that makes use of a Wireless Application Protocol (WAP), Bluetooth™ network protocol, or the like.

It is important to note that while the present invention has been described in the context of a fully functioning data processing system, those of ordinary skill in the art will appreciate that the processes of the present

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invention are capable of being distributed in the form of a computer readable medium of instructions and a variety of forms and that the present invention applies equally regardless of the particular type of signal bearing media
5 actually used to carry out the distribution. Examples of computer readable media include recordable-type media such a floppy disc, a hard disk drive, a RAM, and CD-ROMs and transmission-type media such as digital and analog communications links.

10 The description of the present invention has been presented for purposes of illustration and description, but is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. The
15 embodiment was chosen and described in order to best explain the principles of the invention, the practical application, and to enable others of ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use
20 contemplated.